

Rube Goldberg

Activity



This is an actual student built Rube Goldberg 20-step machine. The objective of this machine was to prepare a bowl of cereal for breakfast. This machine worked so well, that it was used by his family to prepare a bowl of Fruit Loops for a period of time.

Standard: 3240-04 : Students will construct various machines and compare the work done by them.

Objective:

3240-0401 The students will construct simple machines and use them to measure and analyze work done by them.

3240-0402 The student will design and analyze complex machines.

Intended Learning Outcomes:

- 1a. Make observations and measurements (uses instruments as appropriate).
- 2a. Identify variables and describe relationships between them.
- 2c. Plan field studies, controlled experiments, and other investigations.
- 4b. Understand how technological advances have influenced the progress of science, and how science has influenced developments in technology.
- 4d. Recognize the personal relevance of science in daily life.



Matter
Energy
Forces
Machines
Earth

A Rube Goldberg machine is a simple machine apparatus used to perform a certain task. It is your job to create a 20-step simple machine apparatus to perform any task that you wish.

Safety concerns:



Teachers and students, be sure to keep all Electrical and Heat Safety Rules that are specified by your teacher and in all general laboratory experiences. In addition, be sure that your machine does not harm animals or people.

When you drag your mouse over the link, a quicktime [video of an actual student built 20-step Rube Goldberg machine](#) will open in a new window. Close the window when you finish viewing the video to return to Sci-ber text.

A Student Instruction Page with the Procedure and Rules as found below is available in [.pdf](#) format.



Procedure and Rules

You will be graded on each section of the required procedures.

Section 1) Like an architect, you must make a "blue print" drawing of your Rube Goldberg machine listing all twenty steps with the proper names of the different simple machines.

Section 2) You must **build and mount** your apparatus on a wooden or solid platform. Your project must fit through the door.

Section 3) You must demonstrate your device using the proper terms to identify the different simple machines. Then you will physically demonstrate your device to the class.

Please Note!

1) You may not launch, shoot or catapult anything from the apparatus against people, the wall or the ceiling. You **MAY NOT** use a mouse or rat trap.

2) Any and all messes created by your machine will be cleaned up by you!

3) You may only use the same type of simple machine five times on your project. With this in mind, you only need four (4) different simple machine types to successfully complete this assignment.

Task Ideas

Fold a napkin, Feed a small animal, Light a match, Open a pop can, Screw a lid on a jar, Raise a flag, Turn on a radio, Set off a party popper, Blow up a balloon, Prepare a bowl of cereal, Turn on a light, Turn a page in a book, Smash a grape, Pour a drink in a cup, Prepare a bowl of toss salad, Mix a kool aid drink, Put toothpaste on a toothbrush, Put a golf ball into a hole, Boil or fry an egg, An alarm clock device, Turn on or off a faucet, Smash a grape, Turn on a flashlight.

The above are only **ideas**. Any other ideas must be cleared with your teacher **first!** It's OK to be unique and creative!

HINTS:

This project is not as difficult as one may first think. This is a great project that can be very inexpensive if you use materials around the house. Building toys like Lego, Tinker Toys, or construction kits may help you with the construction of this apparatus.

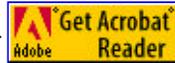
GOOD LUCK!!!



[The Official Rube Goldberg Web Site](#) relates to this activity. It gives a great background on who Rube Goldberg was as well as describing how to build a Rube Goldberg machine. **Remember to use your browser's back button to return to sci-ber text.**



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Updated August 7, 2000 by: [Glen Westbrook](#)

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